

ABSTRAKT V ANGLIČTINĚ

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Title of the master thesis: The possibilities of unilateral cross-effect by unilateral shank amputation.

Department: Department Track and field.

Supervisor: PhDr. Aleš Kaplan, Ph.D.

Goals: an experimental demonstration of the contributions from the lower limb muscle function with unilateral amputation of the shank by means of unilateral cross-effect and compared to individuals with complete lower limb.

Method: The method of repeated application for the development of sub maximal efforts, that was selected, was taken from the heavy athletics. The method, which formed the basis of this experimental training program, was composed of four basic isolated exercises for lower limb, which consisted flexion on the leg curl machine, the extension on the leg curl machine, leg press 45 °, seated calf machine, with an emphasis on the physical possibilities of subject with unilateral amputation. Expected changes were measured using dynamometric and anthropometric measurements of both limbs.

Results: The results proved the main prerequisite the lateral load of one (lower) limb – by using the training method of repeated efforts caused spontaneous influence of the function of the other (passive) lower limb with single-sided shin amputation thanks to unilateral cross effect. At the same time the results proved difference in the amount of lateral efficiency between testee A and B.

Key words: amputation, lower limb, unilateralism, unilateral cross effect, the method of repeated efforts, anthropometry